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08/350-168 11/30/94 YAMAZAKI

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EXAMINER

NGUYEN, T

EEM1/0430

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SUITE 600
MCLEAN VA 22102

ART UNIT PAPER NUMBER

9

2515

DATE MAILED: 04/30/96

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☒ Responsive to communication filed on 1/29/96 ☒ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), — days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-31 are pending in the application.

Of the above, claims _____ are withdrawn from consideration.

2. ☒ Claims 8 have been cancelled.

3. ☐ Claims _____ are allowed.

4. ☒ Claims 1-7, 9-31 are rejected.

5. ☐ Claims _____ are objected to.

6. ☐ Claims _____ are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

8/350,168

EXAMINER'S ACTION

Art Unit: 2515

Applicant's preliminary amendment filed May 20, 1997, has been received and entered. It is noted that claim 21 has not been completely amended to delete all "non-single crystalline" and "single crystalline" terms. as so stated in the accompanying remarks.

However, for the purpose of examination, it is assumed that those terms have been deleted.

Applicant is required to correct claim 21 to concur with Applicant's remarks.

✓ o.k.

Claim Rejections - 35 USC § 102

1. Claims 1, 2, 4-7, 9, 10, 16-19, 21, 25-27, 30, 31 are rejected under 35 U.S.C. § 102(e) as being anticipated by Spitzer'550.

The above claims are anticipated by Spitzer's figs. 1, 7A-7D, and accompanying text (col. 3, line 48 to col. 4, line 31) which disclose a and LCD device comprising:

- an insulating glass substrate (14) (col. 3, lines 63+);
- an active matrix circuit (25) including TFTs which can be of a polycrystalline Si type (col. 8, lines 11+);
- driving means (18,20) with TFTs which can be of a polycrystalline Si type (col. 8, lines 11+); the TFTs of both the driving means and the active matrix circuit inherently have the same structure; the driving means also having X and Y decoders/drivers as claimed;
- control means (40) being connected with the driving means by conductive interconnections, i.e. wire bonding; wherein the active matrix circuit, driving means, and control means are all formed on the insulating glass substrate; the control means (40) are logic circuits inherently

Art Unit: 2515

made from a semiconductor IC chip comprising a central logic processing unit and memories to function accordingly.

Claim Rejections - 35 USC § 103

2. Claims 3, 11, 13, 20 are rejected under 35 U.S.C. § 103 as being unpatentable over Spitzer'550 in view of Mase'156.

Regarding the above claims Spitzer discloses the claimed invention except for the control means, i.e. the semiconductor IC chip, being connected with the driving means by COG. Mase's fig.2 discloses the use of the COG method to connect an IC chip to an LCD glass substrate. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Spitzer's LCD device by connecting the control logic circuits (40) to the driving circuits on the display glass substrate by the COG method as disclosed by Mase'156 because such method is one of the many conventional methods for interconnecting circuitries available in the art (as pointed out by Mase's col.1, lines 25-58).

3. Claims 22-24 are rejected under 35 U.S.C. § 103 as being unpatentable over Spitzer'550.

Regarding the above claims Spitzer discloses the claimed invention except for the specific use of complementary type, P-type, or N-type TFTs for the driving circuit. One of ordinary skill in the art would have recognized the functional equivalence of those

Serial Number: 8/818,884

-4-

Art Unit: 2515

conventional types of TFT used in circuitries. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use any of those conventional TFTs for the driving circuit because the type of TFTs used merely depends on the fabrication desire and circuit design choice of the manufacturer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tiep Nguyen whose telephone number is (703) 305-3496.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1615.


WILLIAM L. SIKES
SUPERVISORY PATENT EXAMINER
GROUP 2500